

FEDOROV, V. G. and GERASHCHENKO, O. A. (ITTF Academy of Sciences of Ukrainian SSR)

"On sensor units of heat flow developed by them for high-temperature measurements".

Report presented at the Section on Heat Exchange in Single Phase Medium, Scientific Session, Council of Acad. Sci. Ukr SSR on High Temperature Physics, Kiev, 2-4 Apr 1963.

Reported in Teplofizika Vysokikh temperatur, No. 2, Sep-Oct 1963, p. 321, JPRS 24,651.
19 May 1964.

GERASHCHENKO, Oleg Arkad'yevich; FEDOROV, Vladimir Gavrilovich;
SELYAVIN, G.F., kand.tekhn.nauk, otv.red.; SYTNIK, M.K., red.

[Technique of the heat-engineering experiment] Tekhnika
teplotekhnicheskogo eksperimenta. Kiev, Izd-vo "Naukova
dumka," 1964. 161 p. (MIRA 17:7)

"APPROVED FOR RELEASE: 03/20/2001

CIA-RDP86-00513R000412630007-8

APPROVED FOR RELEASE: 03/20/2001

CIA-RDP86-00513R000412630007-8"

conversion, conduction, or thermal radiation. The pickup

is a single pickup consisting of a sandwich type differential

through the middle layer. This can be practically proportional

with a diameter and 1 mm thickness. has been used

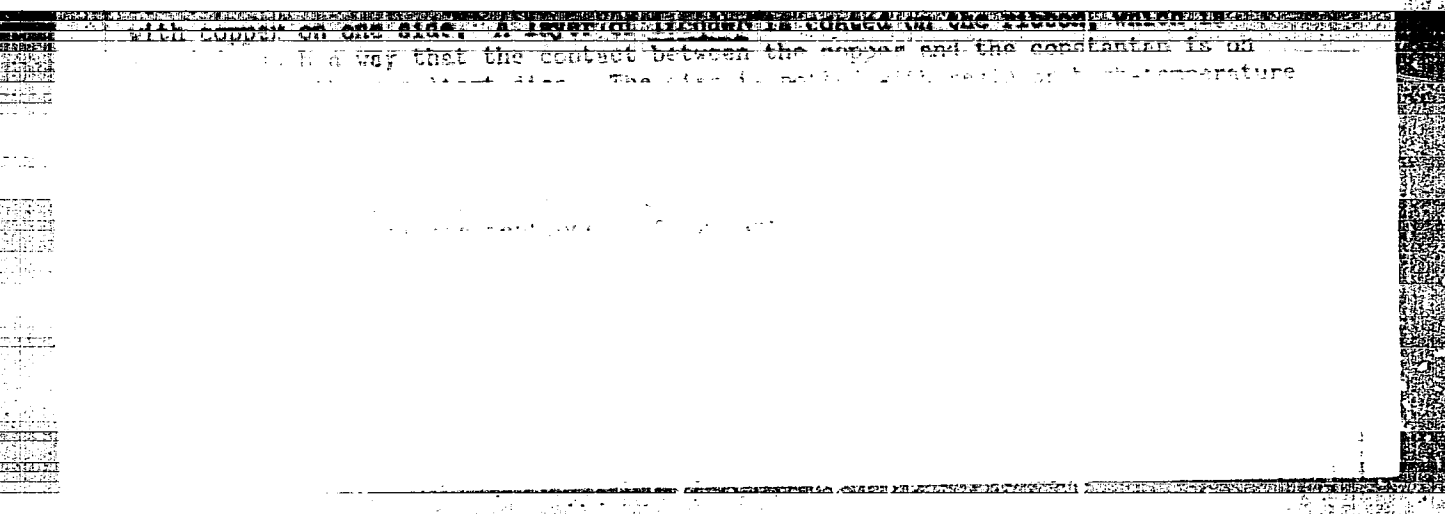
"APPROVED FOR RELEASE: 03/20/2001

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ENCLOSURE: 01

APPROVED FOR RELEASE: 03/20/2001

CIA-RDP86-00513R000412630007-8"

L 32603-66 EWT(d)/ENP(v)/ENP(k)/ENP(h)/ENP(I) JAJ/GD/BC
ACC NR: AT6911939 SOURCE CODE: UR/0000/66/000/000/0207/0210

AUTHOR: Gerashchenko, O. A. (Kiev); Fedorov, V. G. (Kiev)

66
B+1

ORG: none

TITLE: Thermoelectric heat flow measuring elements

SOURCE: Vsesoyuznaya konferentsiya po avtomaticheskomu kontrolyu i metodam elektricheskikh izmereniy, 5th, ^{AM} Avtomaticheskii kontrol' i metody elektricheskikh izmereniy; trudy konferentsii, t. 2: Izmeritel'nyye informatsionnyye sistemy. Ustroystva avtomaticheskogo kontrolya. Elektricheskkiye izmereniya neelektricheskikh velichin (Automatic control and electrical measuring techniques; transactions of the conference, v. 2: Information measurement systems. Automatic control devices. Electrical measurements of nonelectrical quantities). Novosibirsk, Izd-vo Nauka, 1966, 207-210

TOPIC TAGS: thermocouple, conductive heat transfer, intensive heat transfer, flow measurement

ABSTRACT: The knowledge of the local value of the heat flux is very important information for the understanding of processes in devices based on heat exchange. In the past no instruments were available for the measurements of heat transfer through very small surfaces in objects of arbitrary configuration. Consequently, the present authors developed universal, highly accurate and stable devices which do not generate distortions of the original physical

Cord 1/2

L 32503-56

ACC NR: AT6011939

process. The units are based on differential thermocouples using thermoelectrode materials as auxiliary walls generating a temperature difference proportional to the heat flux. The existing devices can measure local heat fluxes up to $140,000 \text{ W/m}^2$, and single sensors are 8 mm in diameter and 1 mm high. More complicated geometrical arrangements can gather 100 single sensors within a $d = 25 \text{ mm}$, $h = 1.5 \text{ mm}$ disk, or 1,000 sensors within a $d = 10 \text{ mm}$, $h = 1.2 \text{ mm}$ space. Work is in progress on a $1,000,000 \text{ W/m}^2$ unit. The maximum operating temperature is $1,500 \text{ C}$. When the sensor is built along an isothermal surface, then the distortion of the original field may be completely neglected and the operating temperature raised up to $6,000 \text{ C}$. Orig. art. has: 2 figures.

SUB CODE: 20, 14 / SUBM DATE: 29Nov65 / ORIG REF: 004

Card

2/2 20

ACC NR: AT7004205

SOURCE CODE: UR/0000/66/COO/000/0012/CO14

AUTHORS: Gorashchonko, O. A.; Fedorov, V. G.

ORG: none

TITLE: Investigation of high-temperature processes with the aid of transducers sensitive to local heat fluxes

SOURCE: AN SSSR. Institut metallurgii. Eksperimental'naya tekhnika i metody vysokotemperaturnykh izmereniy (Experimental techniques and methods of high temperature measurement). Moscow, Izd-vo Nauka, 1966, 12-14

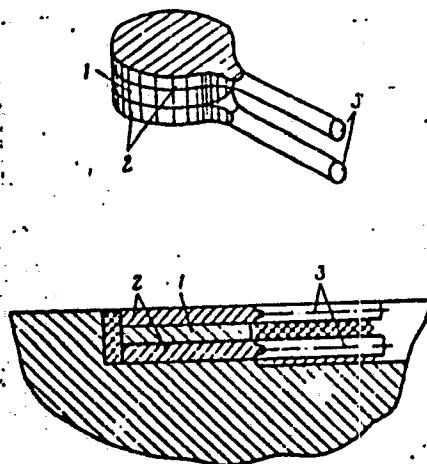
TOPIC TAGS: temperature detector, temperature instrument, heat measurement, heat flux pickup

ABSTRACT: A device for determining local heat fluxes (see Fig. 1) was developed at the Institute for Thermal Energy, AN UkrSSR (Institut teploenergetiki AN UkrSSR). The device, which operates on the thermoelectric principle, is capable of measuring heat fluxes up to $120000 \text{ Kcal/m}^2/\text{hour}$ across an area of 0.5 cm^2 with an accuracy of $\pm 5\%$. A scheme for determining the temperature of hot gases with the constructed device was also developed. It is concluded that, with extension of the working temperature and further improvement in the sensitivity, the device will afford greater accuracy than is obtainable with existing methods in determining local heat fluxes and temperatures of hot gases.

Cord 1/2.

ACC NR: AT7004205

Fig. 1. Schematic of the device.
1 - constantan layer, 2 - platinum
or copper layer, 3 - platinum or
copper leads



Orig. art. has: 4 graphs.

SUB CODE: 14, 13/ SUBM DATE: none

Card 2/2

FEDOROV, V.I.		PROCESSING AND PROPERTIES INDEX									
CA		111+									
<p>Effect of certain pharmacological remedies on visual acuity under conditions of simultaneous faint illumination and lowered barometric pressure. V. V. Strel'tsov and V. I. Fedorov (Kafedry Aviatitsionnoi Meditsiny Tsentral. Inst. Gosvzdukhmavovaniya Vrachel i Outele Ogranov Chuvstva V.I.E.M., Moscow). <i>Russk. Eksp. Med. Med. 18, No. 3, 63-5(1944)</i>.--The action of phenamine, ascorbic acid, caffeine, and methylcaffeine was studied. Twenty mg. of phenamine improves the eyesight after</p> <p>it has been impaired under conditions of anoxia, but has no prophylactic effect. Ascorbic acid causes an immediate increase in visual acuity, which is rapidly decreased again, but after 15-20 min. causes another increase which lasts 1.0-1.5 hrs. Caffeine increases visual acuity for a short time within 15-20 min. after administration. The increase in vision caused by methylcaffeine is not so pronounced, but is more prolonged, lasting over an hr. Taken by aviators 30 min. before flight, caffeine and methylcaffeine prevent impairment of eyesight at high altitudes. A combination of ascorbic acid with phenamine or methylcaffeine gave very good results. J. D.</p>											
ASR-51A METALLURGICAL LITERATURE CLASSIFICATION											
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BEREZOVSKIY, A.A., kand. sel'skokhozyaystvennykh nauk; ZUERILINA, Z.A.,
mladshiy nauchnyy sotrudnik; FEDOROV, V.I., mladshiy nauchnyy
sotrudnik

Sugar beets in rations for swine. Zhivotnovodstvo 23 no.3;
25-27. Mr '61. (MIRA 17:1)

1. Vsesoyuznyy institut zhivotnovodstva.

ACCESSION NR: AR4027703

S/0276/64/000/002/G007/G008

SOURCE: RZh. Tekhnologiya mashinostroyeniya, Abs. 2G38

AUTHOR: Frolov, N. A.; Belinkiy, A. L.; Fedorov, V. K.; Istrina, Z. F.

TITLE: High-strength casting of new corrosion-resisting (stainless) steels with reduced nickel content

CITED SOURCE: Tr. Vses. n.-t. i konstrukt. in-t khim. mashinost., vy*p. 43, 1963, 88-95

TOPIC TAGS: high-strength casting, corrosion-resisting steel, low nickel content, heat treatment, inter-crystal corrosion, steel, nickel steel

TRANSLATION: Steel Kh21N5TL has satisfactory casting properties enabling sufficiently complex castings of high strength to be produced. As a result of heat treatment, the yield point of this steel exceeds by 1.5--2 times that of type 18--8 chromium--nickel steels. Its resistance to corrosion in a number of media approaches that of Kh18N9TL steel. With a percentage ratio $Ti:C \geq 5$ it is not prone to inter-crystal corrosion. Steel Kh17N4S2L has good casting

Card 1/2

ACCESSION NR: AR4027703

properties, considerably surpassing those of Kh18N9TL, and can be used to make particularly complex castings. Heat treatment of it insures a yield point 2--2.5 times higher than that of Kh18N9TL. Its resistance to corrosion is considerably lower than that of Kh21N5TL, hence castings from it can be used only for slightly aggressive media. Kh17N4DZL has better casting properties than Kh18N9TL and Kh21N5TL, but lower than Kh17N4S2D. Kh17N4DZL surpasses austenitic steels by more than double in hardness, is not prone to inter-crystal corrosion as determined by the AM method (GOST 6032-58), is resistant in a number of aggressive media and can be used to make equipment operating in sea water and certain acids, gas and oil wells and oil refineries.

DATE ACQ: 24Mar64

SUB CODE: ML

ENCL: 00

Card 2/2

FEDOROV, V.I., inzhener.

Subsurface drainage. Stroi.prom. 35 no.6:43-44 Je '57.

(MIRA 10:10)

(Drainage)

FEDOROV, V.I., Cand Tech Sci -- (diss) ^{Moisture regime} ~~"System of ground~~
~~soils in flow of~~ ^{in use}
~~moisture channels for building developments~~ under conditions
of the Far East." Vladivostok, 1959, 17 pp (Acad Sci USSR.
Siberian Department. Far Eastern Affiliate im V.L. Komarov)
150 copies (KL, 33-59, 119)

FEDOROV, V.I. (Vladivostok)

Moisture balance in clayey soils near foundations of finished
buildings. Osn.,fund.i mekh.grun. 2 no.4:18-19 '60.

(MIRA 13:7)

(Foundations) (Soil moisture)

FEDOROVA, N.Ya., kand. tekhn. nauk; FEDOROV, V.I., kand. tekhn. nauk; IFTINKA, G.A., red.; SHEVCHENKO, T.N., tekhn. red.

[Instructions for designing and constructing foundations and basements of buildings and installations on clay soils by the seam draining method] Ukazaniia po proektirovaniu i ustroistvu fundamentov i podvalov zdaniy i sooruzheniy v glinistykh gruntakh po metodu dreniruyushchikh prosloek. Moskva, Gosstroizdat, 1963. 26 p. (MIRA 17:2)

1. Russia (1917- R.S.F.S.R.) Gosudarstvennyy komitet po dedam stroitel'stva. 2. Dal'nevostochnyy nauchno-issledovatel'skiy institut po stroitel'stvu Gosstroya RSFSR (for Fedorova).
3. Proyektnyy institut No.4 Dal'nevostochnogo sovnarkhoza (for Fedorov).

FEDOROV, V.I. (Vladivostok)

Causes of the change in the moisture conditions of clayey soils in connection with the construction of buildings and structures. Om., fund. i mekh.grun. 6 no.2:10-12 '64. (MIRA 17:4)

FEDOROV, V. I.

Hydrodynamics

Dissertation: "Investigation of Elements of a System of Hydraulic Steam Distribution of Steam Engines With a Slide-Valve Distributor." Cand Tech Sci, Inst of Thermal Power Engineering, Acad Sci Ukr SSR, Kiev, 1953. (Referativnyy Zhurnal --Mekhanika Moscow, Mar 54)

SO: SUM 213, 20 Sep 1954

FEDOROV, V. I.

1236. Fedorov, V. I., Shvets, I. T., and the group. Investigation of temperature distribution in several types of turbine rotors in the nonsteady-state regime (in Russian). Teplo-

energetika, 1955, No. 11, pp. 11-15.

The authors investigate the temperature distribution in turbine rotors in the nonsteady-state regime. The results of the investigation are presented in the form of graphs and tables. The authors also discuss the influence of various factors on the temperature distribution.

lies in the fact that the influence of blades is disregarded, and that the coefficients of heat transfer between rotor and working

3

Use in the fact that the influence of blades is disregarded, and
that the coefficients of heat transfer between rotor and working
fluid are assumed known. With the assumptions included in the
paper, it is probably easier and more economical to obtain the
solution by numerical methods with the aid of a high-speed computer.
The authors' calculations are based on a highly idealized scheme adopted in the

Handwritten note: *Handwritten signature or initials*

FEDOROV, V.I.; SHVETS', I.T.; SHNL'MENKO, N.N.

On temperature distribution in turbine rotors. Dop. AN URSS no.6:
533-536 '55. (MIRA 9:7)

1. Diysniy ohlen AN URSS (for Shvets'). 2. Institut teploenergetiki AN
URSS. (Impellers)

FEDOROV, V. I.

AID P - 3885

Subject : USSR/Power Eng.

Card 1/1 Pub. 110-a - 6/17

Authors : Fedorov, V. I., Kand. Techn. Sci., I. T. Shvets, Dr.
Tech. Sci., and N. N. Shel'menko, Eng.

Title : Research on temperature distribution in some turbine
rotors at unstable heat transfer

Periodical : Teploenergetika, 11, 27-31, N 1955

Abstract : The article deals with research on deformations in
rotors which occur during start and stoppage of
operations due to increased heat loads. Different
makes of rotors are discussed. The results of the
research are presented with 7 figures. The use of
welded, disc-shaped rotors is advocated.

Institution : None

Submitted : No date

FEDOROV, V.I.

Method for diagraming the movement of steam distribution valves taking
into account hydraulic resistance. Trudy Inst.tepl.URS SR no.12:102-112
'55. (Valves) (MLRA 9:7)

FEDOROV, V.I.

Selection of a hydraulic steam distribution system for low-speed
marine steam engines. Trudy Inst.tepl.URS SR no.12:113-120 '55.
(Steam engines--Valve gears) (MLRA 9:7)

FEDOROV, V.I.

Problem of similitude in heat transmission phenomena under variable physical coefficients. Dep.AN URSR no.1:54-56 '56. (MLRA 9:7)

1.Institut teployenergetiki AN URSR. Predstaviv diysniy chlen AN URSR I.T.Shvets'.
(Heat--Transmission)

FEDOROV, V.I.; SHVETS, I.T.; SHEL'MENKO, N.N.

Experimental investigation of temperature distribution in a rotor
of drum design subject to nonsteady heat exchange. Trudy Inst.tepl.
AN URSSR no.13:53-59 '56. (MIRA 10:5)

(Turbines)

SEVETS, Ivan Trofimovich; FEDOROV, Valentin Iosifovich, Prinimal uchastiye
LOZITSKIY, L.P., inzh. ORLIK, Ye.L., red.; KHOKHANOVSEAYA, T.I.,
tekhn.red.

[Nonstationary heat exchange in turbine rotors] Voprosy ne-
statsionarnogo teploobmena v rotorakh turbin. Kiev, Isd-vo
Kievskogo univ., 1960. 282 p. (MIRA 14:1)
(Turbines) (Heat--Conduction)

39896

S/044/62/000/007/057/100

1.0111/C333

26 21 20

AUTHORS: Shvets', I. T., Fedorov, V. Y., Bodnarchuk, V. G.

TITLE: The application of some approximation methods to the solution of the heat-equations in turbine-rotors

PERIODICAL: Referativnyy zhurnal, Matematika, no. 7, 1962, 33, abstract 7V148. ("Zb. prats'. In-t teploenerg. AN URSR," 1960, no. 18, 3-15)

TEXT: Investigated is the change of the temperature in an infinite hollow cylinder at instationary heat exchange. The problem leads to the following boundary value problem

$$\frac{\partial u}{\partial \tau} = b \left\{ \frac{\partial^2 u}{\partial \rho^2} + \frac{1}{\rho} \frac{\partial u}{\partial \rho} + \frac{\partial^2 u}{\partial \zeta^2} \right\}; \quad (1)$$

$$\left[\frac{\partial u}{\partial \rho} + h(u - u_{\infty}) \right]_{\rho=1} = 0; \quad (2)$$

$$\left[\frac{\partial u}{\partial \rho} \right]_{\rho=h} = 0; \quad (3)$$

$$[u]_{\tau=0} = u_0. \quad (4)$$

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S/044/62/000/007/057/100

The application of some approximation...C111/C333

$u(\tau, \xi, \zeta)$ being the searched function, $k \leq \xi \leq 1$, $-\infty < \zeta < +\infty$,
b and h being certain constants, u_{ex} being the temperature of the
outside medium. One especially considers the case where u does not
depend on ζ . In this case the question leads to the boundary value
problem

$$\frac{\partial^2 \theta}{\partial \rho^2} + \frac{1}{\rho} \cdot \frac{\partial \theta}{\partial \rho} - \frac{\partial \theta}{\partial \tau} = F(\rho, \tau); \quad (1')$$

$$\left[\frac{\partial \theta}{\partial \rho} \right]_{\rho=1} = [-h(\theta - \theta_{cp})]_{\rho=1}; \quad (2')$$

$$\left[\frac{\partial \theta}{\partial \rho} \right]_{\rho=k} = 0; \quad (3')$$

$$[\theta]_{\tau=0} = \theta_0. \quad (4')$$

If in problem (1) - (4) one gives u_{ex} as a function of τ and ξ , and in
problem (1') - (4') θ_{ex} as a function of τ , and if one carries out a
Laplace transformation with respect to τ , then the boundary value
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The application of some approximation... C111/C333

problems (1) - (4) and (1') - (4') leads to new problems the solutions of which are the images of $u(\tau, \xi, \eta)$, respectively $\theta(\tau, \xi)$. These images are approximatively determined according to the method of averaging of the functional corrections of Yu. D. Sokolov and according to the method of B. G. Galerkin. After the subsequent transition to the originals one obtains approximative solutions of (1)-(4) and (1')-(4'). The first one of these two problems is solved according to the method of Yu. D. Sokolov, the second one according to Yu. D. Sokolov and B. G. Galerkin. With each of these methods one determines two approximations each. Because of numerical calculations one draws diagrams characterising the exactness of the obtained approximative solutions. Well-founded recommendations for the application of these methods in the praxis of the engineer are given.

[Abstracter's note: Complete translation.]

Card 3/3

FEDOROV, V. I., and LEONTYEV, A. I.

"Application of the Local Modelling Theory to the Investigation of Heat Transfer and Resistance at Gas Flow along the Ducts."

Report submitted for the Conference on Heat and Mass Transfer, Minsk, BSSR, June 1961.

26.2/20

S/021/61/000/006/008/009'
D247/D301

AUTHORS: Minyaylenko, M.O., Fedorov, V.I., and Shel'menko, N.N.

TITLE: Temperature measurement of turbine elements

PERIODICAL: Akademiya nauk Ukrayins'koyi RSR, Dopovidi, no. 6,
1961, 759 - 762

TEXT: The authors, after discussing the importance of the temperature conditions in different parts of steam and gas turbines, describe experimental methods at exact temperature measurements in turbine rotors or housings, worked out in the department of thermal motors of the Institute of Heat and Power Engineering at the Academy of Sciences UkrSSR. A chromel-alumel thermocouple was prepared from an 0.5 mm wire, plaited with a glass thread impregnated with a silicone fire-proof cement.¹⁵ In the tested rotors a central opening was bored out with radial holes at chosen points, intersecting the central one. In the holes thermocouples were inserted by means of wires, the former being coated with a glass fabric pre-

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15

25167

Temperature measurement of ...

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D247/D301

serving them from mechanical damage. When the thermocouples were pulled through the holes, they were held fast in their place by a special device and welded to a chosen point; after welding, holes were filled with heat resistant cement, and a metallic stopper was fixed on the top, its object being to withstand the cement pressure during the turbine high speed revolutions, and thus prevent dislocation of the thermocouples. A schematic drawing of the fixing device is given. For determining the exact temperature range in working and stationary turbine elements a special apparatus has been developed, permitting the recording of the variable EMF of thermocouples in a few seconds, within 2 %. The thermocouple EMF was conducted through a rotary contact, an automatic switch and through an amplifier to a recording oscillograph. Thermocouples from stationary elements were directly connected with the automatic switch. For evaluating the equipment operation, a method of comparison of the oscillograph readings of the tested thermocouples with those of standard ones was used, one of the control thermocouples being connected with its ends crossed, thus permitting the determination of

Card 2/5

Temperature measurement of ...

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D247/D301

the amplifier background (Hb.g.). The evaluation proceeded as follows: (1) The difference between the oscillograph readings for two standard thermocouples was taken - $H_{st2} - H_0$, where H_{st2} - reading of the non-crossed standard thermocouple, H_0 - reading of the crossed one. (2) The value of the background was determined:

$$H_{bg} = \frac{H_{st2} - H_0}{2}$$

(3) The difference $H_{st2} - H_3$ was determined, H_3 being the width of the light-ray tip taken from the oscillograph m. (4) To the value $H_{st2} - H_3$, the value of the background was added or subtracted,

$$H = H_{st2} - H_3 \pm H_{bg}$$

(subtracted when $H_{st2} > H_0$, added when $H_{st2} < H_0$). The value "H" corresponds to the temperature difference: $t_{hj} - t_{cj}$ that of the

Card 3/5

Temperature measurement of ...

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D247/D301

hot and cold junctions of the standard thermocouples. (5) The correction scale for the oscillograph records was calculated:

$$K = \frac{t_{hi} - t_{ci}}{H}$$

(6) The temperature of the investigated point was calculated:

$$t = (H_t - H_3 \pm H_f) K + t_{cj}$$

where H_t is the deflection of the light ray on the oscillograph under the effect of the EMF of the investigated thermocouple. The methods and equipment mentioned were used in the Institute of Heat and Power Engineering to determine local temperatures in turbine rotors and housings and for evaluating thermal stresses in these installations, and were found in practice to be very valuable. This report was presented by I.T. Shvets (Member of the Academy of Sciences UkrSSR). There are 3 figures.

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25167

Temperature measurement of ...

S/021/61/000/006/008/009:
D247/D301

ASSOCIATION: Instytut teploenergetyky AN URSR (Institute of Heat
and Power Engineering, AS UkrSSR)

SUBMITTED: October 8, 1960

*Inst. Thermal
Thermophysics
AS UkrSSR*

X

Card 5/5

FEDOROV, V.I.; MINYAYLENKO, N.A.; RUSAKOV, S.S.

Temperature field and gradient in the parts of a turbine rotor,
made of welded discs, under starting conditions. Dop. AN URSR
no.10:1317-1322 '61. (MIRA 14:11)

1. Institut teploenergetiki AN USSR. Predstavleno akademikom
AN USSR I.T.Shvetsom [Shvets', I.T.].
(Turbines)
(Thermodynamics)

21362
S/021/61/000/011/010/011
D299/D304

26.214

AUTHORS: Fedorov, V. X. and Minyaylenko, M. O.

TITLE: Unsteady heat exchange between rotor and turbine shaft

PERIODICAL: Akademiya nauk UkrRSR. Dopovidi, no. 11, 1961,
1498-1502

TEXT: The results are given of measuring the unsteady temperature field and temperature gradients at the joints between rotor and shaft. The investigation was carried out by simulation of the heat processes on a hydro-integrator. First, a barrel-type rotor with a shaft formed of two cylinders, was investigated. The radius of rotor to that of shaft varied between $R/r = 1.5; 2; 2.5; 3$; $r = 200$ mm. The temperature at the end surface of the rotor and the shaft surface changed linearly, attaining a maximum of $t_2 = 350^\circ\text{C}$.

Various rates of temperature increase of the medium were considered. The change in the temperature gradients and rotor temperature was determined from various ratios, up to the maximum temperature of the body in the neighborhood of the rotor, i.e. up to 700°C . The

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Unsteady heat exchange ...

following results were obtained with $R/r = 1.5$ and coefficient of heat transfer $\alpha_1 = 500 \text{ kcal/m}^2\text{hour degCels}$. With a prolonged increase in temperature of the turbine body, the maximum gradients decrease. The heat exchange between the medium, the end surface of the rotor and the shaft surface has an insignificant effect on the temperature field of the rotor during the first few minutes of heating; but from the tenth minute on, this influence becomes considerable. The intensity of the heat exchange at the end surfaces of the rotor affects the magnitude of the temperature gradients. An increase in rotor diameter, with unchanged edge conditions, leads to a decrease in the rate of heating of the rotor, in temperature and in the radial gradients; it also leads to an increase in negative axial gradients. Further, a disc-type rotor with shaft is considered. It was found that the temperature gradients at the surface are maximal at the moment the body temperature ceases to rise. At the joints between disc and shaft, the axial temperature gradients are considerable. The increase in the axial gradients was observed during the rise in body temperature, as well as after that - at

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X

21362

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D299/D304

Unsteady heat exchange ...

constant temperature. The temperature and the temperature gradients of the disc surface increased with higher coefficient of heat transfer. The size of the shaft has a considerable effect on the temperature and the gradients at the joints. The larger the shaft diameter, the larger the temperature gradients. In order to reduce the temperature gradients at the joints, it is suggested heating the end surface of the rotor and the shaft surface during the starting period. There are 4 figures, 1 table and 1 Soviet-bloc reference.

Inst. Technical Thermophysics

ASSOCIATION: Instytut teploenerhetyky AN USSR (Institute of Heat and Power Engineering AS UkrRSR)

PRESENTED: by Academician I. T. Shvets' AS UkrRSR

SUBMITTED: April 14, 1961

Card 3/3

X

FELOROV, V.I., ZAKHARENKO, N.M. [Zakharenko, M.M.]; STETSKIY, A.S.
[Stets'kiy, O.S.]

Experimental study of the throttling of a liquid (water) by
regulating devices of turbines. Zbir. prats' Inst. tepl. AN
URSР no.22:21-25 '61. (MIRA 16:6)

(Hydrodynamics)

FEDOROV, V.I., kand.tekhn.nauk; ~~SID~~¹, V.M.

Method for measuring temperatures in rotating machinery
components. Energ.i elektrotekh.prom. no.4:32-34 O-D '62.
(MIRA 16:2)

1. Institut teploenergetiki AN UkrSSR.
(Turbines) (Temperature—Measurement)

ACCESSION NR: AP4008100

8/0145/63/000/009/0144/0153

AUTHORS: Shvets, I. T. (Professor, Doctor of technical sciences); Fedorov, V. I. (Candidate of technical sciences); Martanyuk, Z. A. (Engineer); Kovalenko, G. V. (Engineer)

TITLE: Analysis of transient processes in twin-shaft gas turbine unit

SOURCE: IVUZ. Mashinostroyeniye, no. 9, 1963, 144-153

TOPIC TAGS: transient process, twin shaft turbine, gas turbine, turbine control, turbine characteristic, turbine

ABSTRACT: The transient characteristics of a 50 000 kw gas turbine installation with three compression stages and two expansion stages were investigated. The schematic diagram of the installation is shown in Fig. 1 on the Enclosure. The pertinent parameters in the diagram are as follows: $P_3 = 2.6 \text{ atm}$, $T_6 = 1500^\circ\text{C}$; $P_2 = 6.5 \text{ atm}$, $T_4 = 400^\circ\text{C}$; $P_1 = 17 \text{ atm}$, $T_2 = 3700^\circ\text{C}$, $T_1 = 8000^\circ\text{C}$; $P_4 = 5.9 \text{ atm}$, $T_4 = 7700^\circ\text{C}$; $T_2 = 4400^\circ\text{C}$. The control system used to change the speed of the low- and high-pressure compressors and high-pressure turbine between 2700 and 3600 rpm is shown in Fig. 2 on the Enclosure. It consists of a speed regulator (1), a booster (2),

Card 1/4

ACCESSION NR: AP4008100

control valves (5) (for high pressure) and (6) (for low pressure), servo-motors (5) (for high pressure) and (6) (for low pressure). The dynamic equations for this configuration were derived, and the step response of the system for sudden load reductions of 100, 50, and 15% were investigated on an analog computer for relative air consumption $G = 0.6, 0.8, 1.0$. It was found that the gas turbine installation (without the control system) is stable when the load is suddenly decreased (or increased) 50 or 100%. The speed overshoot varied within 26% and 60% of the new final value. With the control system the speed overshoot of the generator was kept to 3.7% (50% load step) and the speed overshoot of the compressor to 10%. The moment of inertia of the generator significantly influenced the temperature behavior before the low- and high-pressure turbines. The volume of the combustion chamber and air ducts appeared to have negligible effects on transient response. (b) Results with $G = 0.8$ and 0.6 indicated that although the response is slower, the system remains stable and the response is sufficient for practical application. Orig. art. has: 6 figures and 14 formulas.

ASSOCIATION: Institut teploenergetiki AN UkrSSR (Heat Energy Institute AN UkrSSR)

SUBMITTED: 08 May 63

DATE ACQ: 09 Jan 64

ENCL: 02

SUB CODE: MM, 02 PA

NO REF SOV: 002

OTHER: 000

Card 2/4

ACCESSION NR: AF4008100

ENCLOSURE: 01

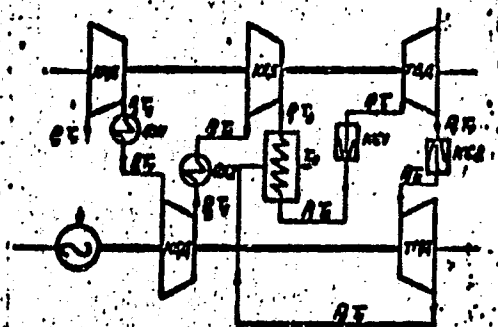


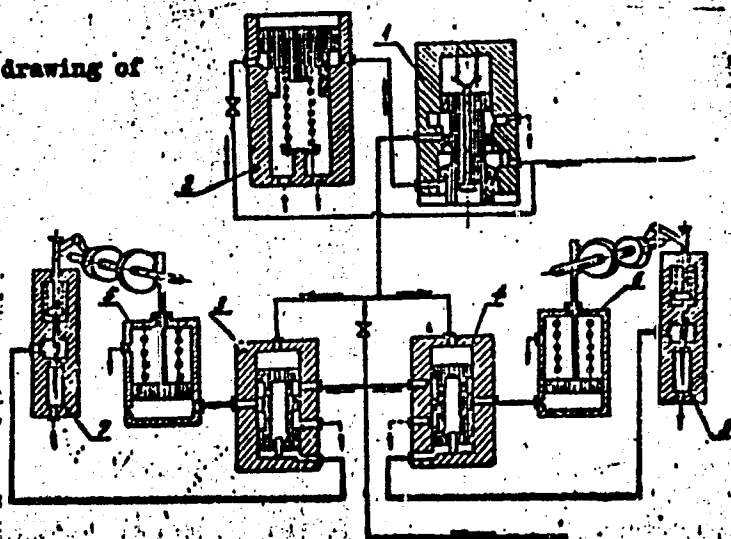
Fig. 1 Schematic drawing of gas turbine installation

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ENCLOSURE: 02

Fig. 2 Schematic drawing of control system



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SHVETS, I.T. [Shvets', I.T.], akademik; FEDOROV, V.I.; MINYAYLENKO,
N.A.; BANNIKOV, A.I. [Bannykov, A.I.]

Experimental study of a non-steady temperature field in the
rotor of a gas turbine system. Dop. AN URSR no. 2:210-223
'64. (MIRA 17:5)

1. Institut teploenergetiki AN UkrSSSR. 2. AN UkrSSSR,
(for Shvets).

FEDOROV, V.I.; KARNOZHITSKIY, V.N.

Thermal and stress condition in a boiler during sudden gas temperature changes. Energ. i elektrotekh. prom. no.4:59-60 O-D '64.

(MIRA 18:3)

L 24597-65 EWT(d)/EPA/EWT(m)/EWP(f)/EPP(n)-2/EPR/T-2/EPA(bn)-2 Faa-4/
ACCESSION NR: AT5004218 Pe-4 WW/MLK S/0000/64/000/000/0147/0153

AUTHOR: Shvets, I. T. (Academician AN UkrSSR); Fedorov, V. I.
Bannikov, A. I.

TITLE: Investigation of transient characteristics of stationary gas turbine combustion chambers ^{Bt1}

SOURCE: AN UkrSSR, Institut tekhnicheskoy teplofiziki. Teplofizika i teplotekhnika (Thermophysics and heat engineering). Kiev, Naukova dumka, 1964, 147-153

TOPIC TAGS: stationary gas turbine, combustion chamber, turbine testing, transient regime, gas turbine

ABSTRACT: The transient characteristics during a sudden increase or decrease or a periodic change in the fuel feed rate to a stationary gas turbine combustion chamber was investigated with natural gas in a chamber 3 m long. The fuel feed fluctuations were changed at 0.5—8 cps and amplitudes 0.1—1.0. The transient characteristics during the transient regimes were experimentally determined. As a result, the transfer function and transfer

Card 1/2

L 24397-65

ACCESSION NR: AT5004218

coefficients for the investigated combustion chamber were determined. The time lag was plotted vs the fuel feed rate in the transient regimes. Orig. art. has: 6 figures. [AC]

ASSOCIATION: Institut tekhnicheskoy teplofiziki AN UkrSSR (Institute of Technical Thermophysics, AN UkrSSR)

SUBMITTED: 10Aug64

ENCL: 09

SUB CODE: PR

NO REF SOV: 001

OTHER: 000

ATD PRESS: 3179

Card 2/2

FEDOROV, V. I., BANNIKOV, A. I. and SHVETS, I. T. (ITTF Academy of Sciences of Ukrainian SSR)

"Results of investigation of dynamics of combustion chambers GTU with fast flowing high-temperature processes."

Report presented at the Section on Physics of Combustion, Scientific Session, Council of Acad. Sci. Ukr SSR on High Temperature Physics, Kiev, 2-4 Apr 1963.

Reported in Teplofizika Vysokikh temperatur, No. 2, Sep-Oct 1963, p. 321, JPRS 24,651. 19 May 1964.

1 4545-85 TWO(j)/EWT(1)/EWP(e)/EPA(e)-2/EWT(E)/EPP(c)/ENP(i)/EPP(n)-2

AP1010-62

AUTHOR: Gsipova, V. A.; Fedorov, V. I.

TITLE: Experimental determination of the coefficient of thermal conductivity of
liquid semiconductors 21

SOURCE: Teplotfizika vysokikh temperatur, v. 3, no. 2, 1965, 218-233

thermal conductivity, liquid semiconductor, high temperature measurement, corrosive medium

A set-up is described for the determination of the thermal conductivity of semiconductors by a stationary method. The method is applicable to semiconductors in a corrosive medium.

in a water-cooled housing made of stainless steel.

Card 1/2

L 52702-65
ACCESSION NR: AP5010462

necessary can be filled with an inert gas. The apparatus makes it possible to investigate the thermal conductivity of very aggressive semiconductor materials over a wide range of temperatures. The measurement, the system for feeding the with electricity, and the experimental procedure are all described. are presented of an experimental study of the thermal conductivity of a mixture made up of a mixture of Pb and Sb at a temperature of 100°C . The thermal conductivity was measured as a function of the temperature. Work is continuing to improve the accuracy of the measurement and to extend its temperature range to 1500°C . 2. art. anal: 3 figures and 2 formulas.

ASSOCIATION: Moskovskiy energeticheskiy institut (Moscow Power Engineering Institute)

SUBMITTED: 11Jun64

ENCL: 00

SUB CODE: SSTD

NO REF 507: 004

OTHER: 001

41D PRESS: 4013

APPROVED FOR RELEASE: 03/20/2001

CIA-RDP86-00513R000412630007-8"

Card 2/2

FEDOROV, V.I., inzh.

Study of the heat transmission of liquid semiconductors
with complex composition. Trudy MEI no.63:193-202 '65.
(MIRA 18:12)

FATKULIN, O.Kh.; CHUKHLOV, V.I.; OYKS, G.N.; ANSHELES, I.I.; SIVKOV, S.S.;
FEDAN, A.T.; FEDOROV, V.I.; DANILIN, V.I.

Deoxidizing ball-bearing steel with vacuum treatment by ferroaluminum.
Metallurg 10 no.12:20-22 D '65. (MIRA 18:12)

1. Zavod "Krasnyy Oktyabr" i Moskovskiy institut stali i splavov.

L 29794-66 EWT(m)/ETC(f)/EWP(t)/ETI IJP(c) PS/RDW/JD

ACC NR: AP6015067

(N)

SOURCE CODE: UR/0363/66/002/005/0844/0849

AUTHOR: Vukalovich, M. P.; Fedorov, V. I.; Okhotin, A. S.; Glazov, V. M.

ORG: Moscow Power Institute (Moskovskiy energeticheskiy institut); Moscow Institute of Steel and Alloys (Moskovskiy institut stali i splavov)

TITLE: Study of the heat conductivity of antimony and bismuth tellurides in the liquid phase

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 2, no. 5, 1966, 844-849

TOPIC TAGS: bismuth compound, antimony compound, telluride, heat conductivity, electric conductivity, phonon scattering, *semiconductor research*

ABSTRACT: A technique was developed for measuring the heat conductivity of liquid semiconductors by determining the radial heat flux in a ring gap with the aid of graphite cylinders which insure reliable and reproducible results. The temperature dependence of the heat conductivity of antimony and bismuth tellurides was thus measured in the liquid state up to 1200°C and its linear increase during heating was demonstrated. The electronic component of the heat conductivity was determined in

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UDC: 546.86'241 + 546.87'241

L 29794-66

ACC NR: AP6015067

melts of these compounds on the basis of electrical conductivity data. The mechanism of heat conductivity in liquid Bi_2Te_3 and Sb_2Te_3 -type semiconductors was found to be due (in addition to the electronic and lattice components) to a third component related to liquid and phonon-liquid scattering. A correlation was noted between the results obtained and the data of physicochemical analysis of the binary liquid systems Bi-Te and Sb-Te. Orig. art. has: 6 figures.

SUB CODE: 20/ SUBM DATE: 24Aug65/ ORIG REF: 015/ OTH REF: 006

Card 2/2

FEDOROV, V.I., inzhener; CHERNYAKOV, G.S., inzhener.

Experience in using aerial photography in surveying highways.
Avt.dor. 19 no.12:18-20 D '56. (MIRA 10:10)
(Roads--Surveying) (Aerial photogrammetry)

3(4)

PHASE I BOOK EXPLOITATION

SOV/2766

Fedorov, Valentin Ivanovich, Candidate of Technical Sciences, Docent

Aerofotoizyskaniya avtomobil'nykh dorog (Aerophotographic Surveying of Highways) Moscow, Avtotransizdat, 1959. 224 p. Errata slip inserted. 1,800 copies printed.

Ed.: V.V. Kislov: Tech. Ed.: N.V. Mal'kova.

PURPOSE: This book is intended for students at highway and road vuzes as well as for engineers and technicians working in the field of highway surveying and planning.

COVERAGE: This book presents a brief history of the development of aerophotographic road surveying and an outline of the basic technical procedures to be followed in carrying out such a survey. Further, it analyzes a number of new methods to be used in the selection of proper roads. These include the application of a stereoscopic model of the terrain for locating the route and special interpretation of aerophotographs. In addition, it describes modern

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Aerophotographic Surveying of Highways

80V/2766

techniques and equipment used in aerophotography and photogrammetry and applied in complex surveying of highways, roads, and railroads. The author thanks Professor A.V. Gorinov, Corresponding Member of the Academy of Sciences; V.I. Avgeyich, Doctor of Geographical Sciences; Professors V.F. Babkov, N.Ya. Bobir, M.D. Konshin, and P.I. Shilov; Docents M.S. Zamakhayev and G.P. Levchuk; Chief Engineer of the Soyuzdortproekt I.P. Moroz. There are 34 Soviet references.

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Bibliography

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AVAILABLE: Library of Congress

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MM/bg
12-7-59

PANKIN, Ivan Aleksandrovich; SEDUN, Andrey Vladimirovich; FEDOROV, V.I.,
dotsent, kand.tekhn.nauk, retsenzzent; MIRONOV, Ye.I., inzh.,
red.; SHURYGINA, A.I., red.isd-va; ROMANOVA, V.V., tekhn.red.

[Practical work in geodesy] Prakticheskie raboty po geodezii.
Moskva, Isd-vo geodez.lit-ry, 1960. 232 p. (MIRA 13:5)
(Surveying)

FEDOROV, Valentin Ivanovich; ANDREYEV, O.V., dots., retsenzent;
LEVCHUK, G.P., dots., retsenzent; KISLOV, V.V., dots.,
red.

[Aerial geodesy and aerial surveying of highways] Aero-
geodeziia i aeroizyskaniia avtomobil'nykh dorog. Moskva,
Transport, 1964. 318 p. (MIRA 17:12)

S/028/61/000/003/002/005
B129/B201AUTHORS: Rokhman, D. Ye., Fed^orov, V. I., Myrzak, Yu. P.

TITLE: Bent tubes

PERIODICAL: Standartizatsiya, no. 3, 1961, 30-33

TEXT: Tubeworks are currently supplying straight tubes only, and consumers are required to bend them themselves. The bending operation is done according to factory plans and norms, or, at best, according to specifications. This means that there is no exchangeability among bent tubes. One must consider, moreover, that not all consumer plants are equipped in a way as to ensure technically perfect bending results. A large metal waste is tolerated as a result of the primitive method, and high costs are therefore involved in the process. The erection of tube-bending plants in the tubeworks eliminates all these drawbacks and results in a considerable saving of metal and equipments in the manufacturing of elbows for short tubes which, according to current norms, cannot be supplied due to losses in the length. The work of a centralized enterprise without a unification of delivery conditions is of course impossible even in leading

Card 1/2

Bent tubes

S/028/61/000/003/002/005
B129/B201

industrial branches. The Ukrainskiy nauchno-issledovatel'skiy trubnyy institut (Ukrainian Scientific Research Institute for Pipes) has therefore worked out a project for the standardization of bent tubes. Exchangeability will be ensured, and the working efficiency of the centralized tube-bending plants will be increased by standardizing the dimensions of the tubes for bending, the curvature radius, admissible tolerances of the curvature dimensions, the material of the bent tubes, and, finally, the conditions of hydraulic tests. This standardization will be the basis for that of the tube-bending equipments. Bending of tubes on presses requires a high precision in production, sharp bends, but it yields only bent parts, without straight parts, which renders the welding operations and the removal of seams more difficult. Tube bending on special machines is less difficult and permits applying several bends on one tube, with straight parts between the bends, and raises the dependability of the work, while considerably reducing the welding work. It is recommended that tubes be assorted according to tube diameters and wall thicknesses, and admissible tolerances as well. There are 2 figures and 4 tables.

Card 2/2

ROKHMAN, D.Ye., kand.tekhn.nauk; FEDOROV, V.I., inzh.; MYRZAK, Yu.P., inzh.

Making more precise the dimensions of pipe sections at the
point of bending. Khim.mash. no.4:33-35 JI-Ag '62. (MIRA 15:7)
(Pipe bending)

VASHENTSEVA, V.M.; VOLKOV, M.I.; ZHAMIN, V.A.; ZHUKOV, F.G.; CHUBUK, I.F.;
KAPUSTIN, Ye.I.; KOZLOVA, N.G.; KOROCHKIN, V.V.; KUL'KOV, A.V.;
MARINKO, I.L.; MOLCHALOV, B.M.; ROMANOV, B.V.; FEDOROV, V.I.;
SHIRINSKIY, I.D.; GRINGAUZ, A., red.; SHEL'K, M., tekhn. red.

[How to study the economics of socialism] Kak izuchat' politicheskuu ekonomiiu sotsializma; posobie dlia rukovoditelei seminarov sistemy partiinogo prosveshcheniia. Moskva, Mosk. rabochii, 1961. (MIRA 14:8)
239 p.

1. Dom politicheskogo prosveshcheniya, Moscow,
(Economics—Study and teaching)

FEDOROV, V.I.

Walking excavators. Biul.tekh.-ekon.inform. no.1:39-41 '59.
(MIRA 12:2)

(Excavating machinery)

FEDOROV, V.I., inzh.

Stability zones in radial antifriction bearings. Vest.mashinostr. 43 no.4:
28-30 Ap '63. (MIRA 16:4)

(Bearings (Machinery))

FEDOROV, V.I.

Primary multiple cancer of the stomach. Zdrav. Bel. 7 no.12:29-31
D '61. (MIRA 15:2)

1. Iz kafedry khirurgii Belorusskogo gosudarstvennogo instituta
usovershenstvovaniya vrachev (zaveduyushchiy kafedroy -- prof. A.M.Boldin)
i khirurgicheskogo otdeleniya Minskoy oblasti klinicheskoy bol'nitsy.
(STOMACH__CANCER)

FEDOROV, V.I.

Palpability of a tumor and operability of stomach cancer. Zdrav.
Bol. 8 no.11:10-13 N *62. (MIRA 16:5)

1. Iz kafedry khirurgii (zav. kafedroy - prof. A.M. Boldin) i
khirurgicheskogo otdeleniya Minskoy oblastnoy klinicheskoy
bol'nitsy (glavnyy vrach M.I. Kotovich).
(STOMACH-CANCER) (PALPATION (MEDICINE))

FEDOROV, V.I.

Welded drive pipes. Standartizatsiia 28 no.3:24 Mr'64.

(MIRA 17:5)

OYKS, G.N.; MATEVOSYAN, P.A.; ANSHELES, I.I.; PATKULLIN, O.Kh.; SELIVANOV, V.M.;
SHURYGIN, G.D.; SIVKOV, S.S.; FEDAN, A.T.; Prinimali uchastiye: PETROV,
B.S.; KUL'KOVA, M.N.; PONOMAREV, Ye.N.; PONOMAREVA, Yu.I.; ZIMINA, R.M.;
FEDOROV, V.I.; BELYAKOVA, K.V.

Results of vacuuming ball-bearing steel by various methods. Stal'
24 no.9:805-808 S '64. (MIRA 17:10)

FEDOROV, V.I., kand. tekhn. nauk; KARNOZHITSKIY, V.N., kand. tekhn. nauk;
MIMRYUKOV, A.P., inzh.

Determination of inertial characteristics of reguline thermocouples.
Energ. i elektrotekh. prom. no.3:31-33 J1-S '65.

(MIRA 18:9)

FEDOROV, V., kandidat tekhnicheskikh nauk.

Jet transport planes (construction details). Grazhd. av.13
no.4:20-23 Ap '56. (Jet planes) (MLRA 9:7)

FEDOROV, V., kandidat tekhnicheskikh nauk.

Effect of air temperature on maximum speeds and absolute ceilings
of airplanes with turbojet engines. Grazhd.av. 13 no.1:20-22
Ja '56.

(MLRA 9:5)

(Airplanes--Turbojet engines)

FEDOROV, V., kandidat tekhnicheskikh nauk.

Pressurized cabins in jet transport airplanes. Grazhd. av. 13 no. 10:17-
19 0 '56.

(MIRA 10:1)

(Jet planes)

FEDOROV, V., kandidat tekhnicheskikh nauk.

Influence of temperature and air pressure on the take off and
landing characteristics of airplanes with turbojet engines.
Grashd. av. 14 no.3:17 Mr '57. (MIRA 10:6)
(Jet planes)

ZHABROV, Aleksey Aleksandrovich; VASIL'YEV, A.A., red.; FEDOROV, V.I.,
red.; KARYAKINA, M.S., tekhn.red.

[Theory of the flight and piloting of an airplane] Teoriia
poleta i pilotirovaniia samoleta. Moskva, Izd-vo DOSAAF, 1959.
411 p. (MIRA 13:2)

(Airplanes--Piloting)

PHASE I BOOK EXPLOITATION SOV/3874

Fedorov, Vladimir Ivanovich, Docent, Candidate of Technical Sciences,
Engineer-Colonel

Konstruktsiya reaktivnykh samoletov (Design of Jet Aircraft) Moscow,
Voen. izd-vo M-va obor. SSSR, 1960. 266 p. Errata slip inserted.
No. of copies printed not given.

Ed.: M.V. Druzhininskiy; Tech. Ed.: T.F. Myasnikova.

PURPOSE: This book is intended for the flight crews and technical personnel of the VVS (Air Force) and GVF (Civil Air Fleet), students in courses of aviation schools of the Air Force and of aeroclubs, and for young readers interested in the design of jet aircraft.

COVERAGE: The book is an elementary descriptive text on the design of jet aircraft. It covers the purpose and constructions of basic components and assemblies and the loads acting on them, aircraft power plants, several pressure cabin systems, and emergency equipment for crew safety. In addition, advanced ideas on further develop-

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Design of Jet Aircraft

80V/3874

ment and improvement of jet-aircraft design for supersonic flight are presented based on non-Soviet views. Data from both Soviet and non-Soviet literature were used. No personalities are mentioned. There are 13 Soviet references.

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Card 2/7

FEDOROV, V.I.

Manufacture of welded drill pipes. Metallurg 9 no.7:24 51 '64.
(MIRA 17:8)

ROKHMAN, D.Ye., kand. tekhn. nauk; FEDOROV, V.I., inzh.; SOTS, G.A., inzh.

Selecting the minimum radius of pipe bend on pipe-bending machines.
Proizv. trub no.10:131-136 '63. (MIRA 17:10)

KOPYTOV, V.F., doktor tekhn. nauk, otv. red.; VESELOV, V.V.,
kand. khim. nauk, red.; YERINOV, A.Ye., kand. tekhn. nauk,
red.; TISHCHENKO, A.T., kand. tekhn. nauk, red.; DASHEVSKIY,
L.N., kand. tekhn. nauk, red.; CHEGLIKOV, A.T., kand. tekhn.
nauk, red. SIGAL, I.Ya., kand. tekhn. nauk, red.;
SEMENKOVSKAYA, P.T., kand. tekhn. nauk, red.; YEREMENKO, A.S.,
kand. tekhn. nauk, red.; DYBAN, Ye.P., kand. tekhn. nauk, red.;
FEDOROV, V.I., kand. tekhn. nauk, red.; POL'SKIY, N.I., kand.
fiz.-mat. nauk, red.

[Transactions of the Second Heat Engineering Conference of
Young Research Workers] Trudy vtoroi teplotekhnicheskoi kon-
ferentsii molodykh issledovatelei. Kiev, Izd-vo AN USSR, 1963.
278 p. (MIRA 17:6)

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KOMISSAROV, A.I., kand.tekhn.nauk, dotsent; FEDOROV, V.I., assistant

Plotting of diagrams of the thread feed of sewing machines with
rotating loopers. Nauch.trudy MTILP no.23:180-189 '61.

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1. Kafedra mashin i apparatov legkoy promyshlennosti Moskovskogo
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(Sewing machines)

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Automatic rotation welding of pipelines in an atmosphere of
carbon dioxide without use of backing-up strips. Svar.proisv.
no.8:22-24 Ag '60. (MIRA 13:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut tverdykh
splavov.
(Pipelines--Welding) (Protective atmospheres)

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 AUTHORS: Oyks, G. N.; Matevosyan, P. A.; Ansheles, I. I.; Fatkullin, O. Kh.;
 Selivanov, V. M.; Petrov, B. S.; Sivkov, S. S.; Fedorov, V. I.
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 employing a new technology 17
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 steel
 ABSTRACT: A new technology for smelting ball-bearing steel employing a refusing
 method was developed. This method is based on the results of an earlier investigation
 by G. N. Oyks, P. A. Matevosyan, I. I. Ansheles, i dr. (Novaya tekhnologiya vyplavki
 sharikopodshipnikovoy stali, Metallurgizdat, 1962). The salient points of the new
 technology are: 1) the furnace charge consists of 100% ball-bearing steel scrap; 2) to
 insure desulfonation, the slag is reduced with pulverized coke only; 3) the oxygen
 concentration is maintained by additions of red hot bauxite. After the above three
 steps, the steel is evacuated and poured in the usual way. A comparison of the new
 method with older ones is presented (see Fig. 1). It is concluded that the new method
 yields ball-bearing steel of higher quality.
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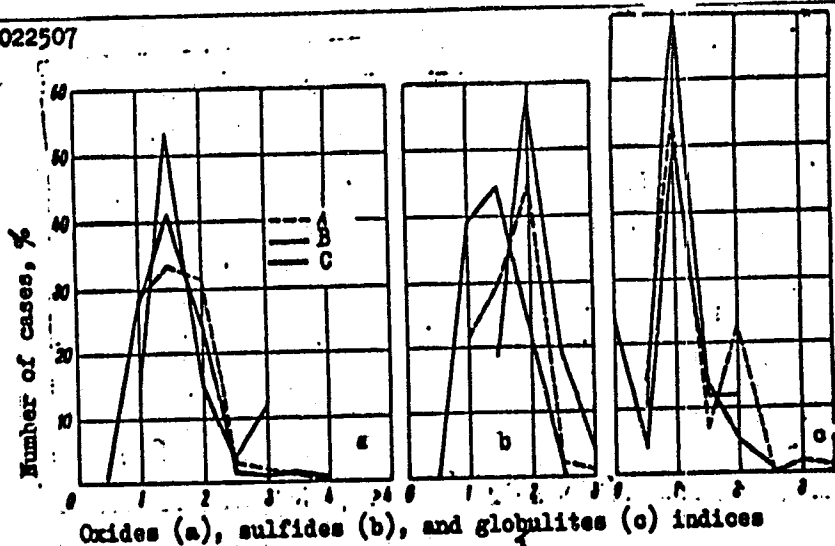


Fig. 1. Comparison of impurities in steel ShKh15: (a) oxides, (b) sulfides, and (c) globulites obtained by evacuation under usual slags (A) and slags of increased oxidative power (B - smelting with oxidation agent, C - smelting according to the new refusing method).

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FEDOROV, V.I.; ABRAMOVICH, A.I.

Supplying gas to industrial enterprises of the Southern Ural region.
Stroi. truboprov. 10 no.9:31-32 S '65. (MIRA 18:9)

PHASE I BOOK EXPLOITATION 1132

Levin, M.Ye., Malinin, G.A., Mandrazhitskiy, M.N., Sinitsyn, V.P. and
Fedorov, V.I.

Zashchita ot sredstv massovogo porazheniya (Defense Against Weapons of Mass
Destruction) Moscow, Uchpedgiz, 1958. 181 p. 100,000 copies printed.

Eds. (Title page): Sinshchyn, V.P. Candidate of Technical Sciences and Malinin, G.A.
Ed. (Inside book): Lavrovskiy, K.F.; Tech. Ed: Natapov, M.I.

PURPOSE: This book is intended for public instructors of the PVO DOSAAF
(Antiaircraft Defense Unit of the All-Union Voluntary Society for the
Promotion of the Army, Aviation and Navy).

COVERAGE: This book includes general information on atomic, chemical and bacteri-
ological weapons and measures for individual and collective protection from them.
The various authors contributed to the text as follows: M.Ye. Levin wrote Chap-
ters 1,2,3,4 and 6; M.N. Mandrazhitskiy - Chapters 7,8 and 9; G.A. Malinin -
Chapter 10; V.P. Sinitsyn - Chapters 11, 12, and 14; and V.I. Fedorov - Chapter 5.
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There are no references

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FEDOROV, Valeriy Ivanovich

[Defense against the means of mass destruction] Zashchita ot
sredstv massovogo porazheniia. Moskva, Uchpedgiz, 1959. 60 p.
(MIRA 13:6)

(Civil defense)